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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/100,799	06/19/1998	HIROAKI KUBO	05058/71301	8949

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EXAMINER

VILLECCO, JOHN M

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 05/19/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/100,799	KUBO, HIROAKI <i>PM</i>
	Examiner John M. Villecco	Art Unit 2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 11 March 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-41 is/are pending in the application.

4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.

5) Claim(s) 16-38 is/are allowed.

6) Claim(s) 9-15 and 39-41 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.

4) Interview Summary (PTO-413) Paper No(s). _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

This ***action is non-final*** due to the new ground of rejection presented below. The previous office action mailed out on May 6, 2003 will be vacated due to improperly making the office action final.

Response to Arguments

1. Regarding the abstract, applicant contends that the objection is based upon the number of words. However, the reason for the objection lies in the applicant's use of the phrase "Control means..." in line 10 of the amended abstract submitted on May 7, 2002. This was pointed out in the previous office action by highlighting in bold lettering the wording regarding legal phraseology in an abstract.
2. Applicant's arguments with respect to claims 10-15, and 39-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi (U.S. Patent No. 5,734,427).**

5. Regarding *claim 39*, Hayashi discloses a CCD (12) for capturing an image of an object. Furthermore, Hayashi discloses that if the image is being displayed an interpolation process is carried out to thin the data so that it can be properly displayed on monitor (29). The interpolation process of Hayashi is varied since the interpolation can be carried out by two different conversion routes (col. 4, lines 9-22). If the image is to be recorded, it is not interpolated, but compressed, and sent to the memory card (36). Therefore, a varied interpolation process is carried out depending upon whether the captured image is to be displayed or recorded.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 10, 11, 15, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (U.S. Patent No. 5,734,427) in view of Hibbard (U.S. Patent No. 5,382,976).**

8. Regarding *claim 10*, Hayashi discloses a CCD (12) for capturing an image of an object. Furthermore, Hayashi discloses that if the image is being displayed an interpolation process is carried out to thin the data so that it can be properly displayed on monitor (29). The

interpolation process of Hayashi is varied since the interpolation can be carried out by two different conversion routes (col. 4, lines 9-22). This teaches that a number of different interpolation processes can be carried out on an image signal. Additionally, Hayashi discloses a memory card (36) for storing a compressed image and a movie processor (20) for carrying out interpolation. If the image is to be recorded, it is not interpolated, but compressed, and sent to the memory card (36).

However, it is well known in the art to interpolate image signals before being stored on a memory card. Hibbard, on the other hand, discloses that it is well known in the art to perform interpolation before storing an image signal onto a memory card. Hibbard discloses a digital signal processor (22) which performs interpolation before storing the image signal to the memory card. See column 3, lines 27-45. By performing interpolation processing before storing it becomes easier to display an image on a compatible machine. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpolate an image signal before storing it so that processing is complete and display is made easier. Furthermore, since Hayashi teaches the ability to perform a number of different interpolation processes it would have been obvious to one of ordinary skill in the art to select an appropriate interpolation technique based on whether the image is being displayed or recorded. This would provide an image signal that is appropriately processed for its intended use in either a monitor or recording medium.

9. As for *claim 11*, it would have been obvious to one of ordinary skill in that art that the use of a faster processing speed when displaying an image is beneficial to a user so that the image can be viewed on a screen faster. Therefore, a faster interpolating process would be

beneficial so a user can quickly review his/her images. Additionally, a better interpolation process would be required when recording an image so that a higher quality image is obtained.

10. With regard to *claim 15*, both Hayashi and Hibbard disclose interpolation portions corresponding to each color in the image. Hayashi includes multipliers 213, 214, 216, 382, 384, and 386 for interpolating each of the red, blue and green components of the image.

11. As for *claim 40*, as mentioned above in the discussion of claim 39, Hayashi discloses all of the limitations of the parent claim. However, Hayashi fails to specifically disclose an interpolation process being performed before recording in the memory card or that a faster interpolation is performed for displaying than for recording. Hibbard, on the other hand, discloses that it is well known in the art to perform interpolation before storing an image signal onto a memory card. Hibbard discloses a digital signal processor (22) which performs interpolation before storing the image signal to the memory card. See column 3, lines 27-45. By performing interpolation processing before storing it becomes easier to display an image on a compatible machine. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpolate an image signal before storing it so that processing is complete and display is made easier.

Furthermore, it would have been obvious to one of ordinary skill in that art that the use of a faster processing speed when displaying an image is beneficial to a user so that the image can be viewed on a screen faster. Therefore, a faster interpolating process would be beneficial so a user can quickly review his/her images. Additionally, a better interpolation process would be required when recording an image so that a higher quality image is obtained.

12. **Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (U.S. Patent No. 5,734,427) in view of Hibbard (U.S. Patent No. 5,382,976) in view of Haruki (U.S. Patent No. 5,990,949).**

13. Regarding *claim 12*, as mentioned above in the discussion of claim 10, both Hayashi and Hibbard disclose all of the limitations of the parent claim. However, neither of the aforementioned references discloses a gamma correction section for correction a gradation characteristic between recording and displaying. Haruki, on the other hand, discloses that different gamma corrections are carried out for images that are to be displayed on an LCD (36) than image signals that are not. The second gamma correction circuit (24) outputs a different gamma correction for an image to be displayed on an LCD while the first gamma corrected image is sent to the flash memory (28). The ability to apply various gamma corrections to an image depending upon where the image is to be sent allows for a better image on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a gamma correction characteristic depending upon whether the image is to be recorded or displayed.

14. As for *claim 13*, Haruki discloses that a different gradation characteristic is given to an image signal that is to be sent to an LCD (36) than to an image signal that is to be sent to the flash memory (28).

15. Regarding *claim 14*, Haruki discloses an LCD (36) on the camera for displaying the image.

16. **Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (U.S. Patent No. 5,734,427) in view of Haruki (U.S. Patent No. 5,990,949).**

17. With regard to *claim 41*, as mentioned above in the discussion of claim 39, Hayashi discloses all of the limitations of the parent claim. However, Hayashi fails to specifically disclose a gamma-correcting step for correcting a gradation characteristic of an image. Haruki, on the other hand, discloses that different gamma corrections are carried out for images that are to be displayed on an LCD (36) than image signals that are not. The second gamma correction circuit (24) outputs a different gamma correction for an image to be displayed on an LCD while the first gamma corrected image is sent to the flash memory (28). The ability to apply various gamma corrections to an image depending upon where the image is to be sent allows for a better image on the display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a gamma correction characteristic depending upon whether the image is to be recorded or displayed.

Allowable Subject Matter

18. **Claims 16-38 are allowed.**

19. Regarding *claim 16*, the primary reason for indication of allowable subject matter is that the prior art does not teach nor reasonably suggest an imaging device that corrects for both a frequency characteristic and a gradation characteristic according to the image recording mode.

20. As for *claim 33 and 37*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest executing an interpolation process based on a selected compression rate.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306 (For either formal or informal communications intended for entry. For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday through Thursday from 7:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service desk whose telephone number is (703) 306-0377.

JMV
5/15/03


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